Dr. Tillwich GmbH
Werner Stehr

Product Specifications

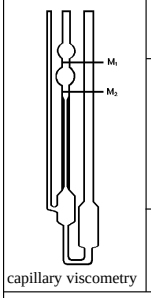
Type 3-5

Article No.: TK2235

Partially Synthetic Clock and Instrument Oil

Laboratory Data:

Kinematic Viscosity (DIN)



capillary viscometry

Temperature	ν (mm²/s)
0°C [32°F]	600
20°C [68°F]	140
40°C[104°F]	50
Viscosity Index (ISO)	110
Viscosity-Temperature-Behavior	good

Permanent Low Temperature -15 °C
(72 hrs without crystallization) [5°F]

Application Temperature -10°C to +80°C
[14°F to +176°F]

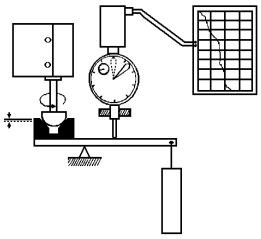
Density 20°C [68°F] (DIN) 0.91 g/cm³
Surface Tension 31 mN/m
Color yellow
Evaporation Rate -0.4 %
(24 hrs/105°C [221°F]) low
Drop Stability good

Durability good
Corrosion Resistance brass: very good
steel: very good

Compatibility with Plastics on request
Chemical Name partially synthetic oil on base of esters and hydrocarbons with additives

Tribological Data:

Test system: sphere on prism (ISO 7148/2)



Friction Behavior
dependent on sliding speed

v (mm/s)	f	friction coefficient f (0.1 / 0.2 / 0.3 / 0.4)
0	0.13	
20	0.03	
50	0.01	
200	0.01	

materials: steel/brass, load 3N, 25°C [77°F]
lubricant: Type 3-5

Wear Behavior
comparison: dry and lubricated with Type 3-5

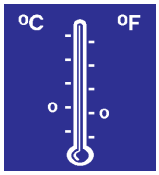
materials		wear (in mm) (0.01 / 0.03 / 0.1 / 0.3 / 1.0)
St/bs:	Type 3-5 dry	
St/st:	Type 3-5 dry	

test parameters: load 30N, distance 10 km, 25°C [77°F], v = 28.1 mm/s

Product

Bearing material

Application temperature

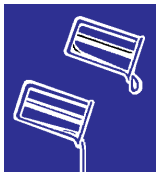


Bearing load

Sliding speed

Durability

Viscosity



Wetting

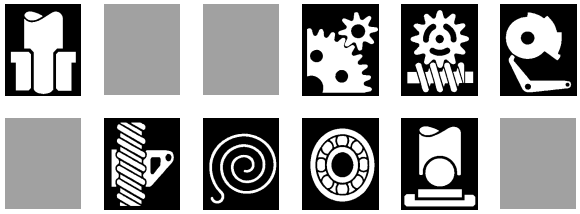
Comments:

Partially synthetic clock and instrument oil on base of different synthetic ester oils, natural hydrocarbons and polyalphaolefines. Type 3-5 is equipped with an additive package for high ageing and oxidation stability as well as corrosion resistance, which ensures its application in the field of horology.

The partially synthetic clock and instrument oil Type 3-5 replaces the ancient classical clock and instrument oils Type 3, 4 and 5.

Application:

Clock and instrument oil for metallic sliding combinations in precision instruments. For springs and pivot bearings from 1 to 5 mm diameter (0.04 to 0,20 inches) in alarm clocks, wall-clocks, domestic clocks or switch-clocks.



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Dr. Tillwich GmbH Werner Stehr
Murber Steige 26
D-72160 Horb (Ahldorf)

Phone: +49 74 51 / 23 41
Telefax: +49 74 51 / 76 24
Mail: info@dr-tillwich.com